CLAIMS

1. A monoclonal antibody detecting and binding
monospecifically human Mcm3 both immunohistologically and
immunobiochemically.

2. A monoclonal antibody detecting and binding
monospecifically human Mcm3 both immunohistologically and
immunobiochemically, whereby the monoclonal antibody has
the same properties as the monoclonal antibody of the
hybridoma cell line with the deposit number DSM ACC2388.

3. A monoclonal antibody detecting and binding
monospecifically human Mcm3 both immunohistologically and
immunobiochemically, whereby the epitope of the
monoclonal antibody of the hybridoma cell line with the
deposit number DSM ACC2388 is detected.

4. The monoclonal antibody according to claim 1, wherein
the monoclonal antibody may be altered biochemically or
molecular biologically or may be synthetic whereby the
antibody lacks completely or partly portions that are
necessary or unnecessary for the detection of Mcm3 or
said portions are substituted by others imparting the
antibody with further advantageous properties.

5. The monoclonal antibody according to claim 1, which is
produced by the hybridoma cell line with the deposit
number DSM ACC2388.

6. A hybridoma cell line which expresses a monoclonal
antibody, detecting monospecifically and binding human
Mcm3 both immunohistologically and immunobiochemically.

7. A hybridoma cell line according to claim 6, whereby the hybridoma cell line is the cell line with the deposit number DSM ACC2388.

5   8. Use of the monoclonal antibody according to any one of claims 1 to 5 in a detection method for human Mcm3.

9. Use of the monoclonal antibody according to any one of claims 1 to 5 for the immunohistological,
10   immunocytological or immunobiochemical detection of human Mcm3 in a sample.

10. Use according to claim 9, characterised in that the sample is selected from a group consisting of serum,
15   sputum, urine, and liquor.

11. Use according to claim 9, wherein the sample is tissue or fine needle aspiration.

20   12. Use according to claim 9, wherein the immunobiochemical detection comprises the methods ELISA, RIA, Western Blot, Far Western Blot, immunoprecipitation and affinity chromatographic steps.

25   13. Use according to claim 9, wherein the immunocytological method comprises FACS and MACS.

14. Use according to claim 9, wherein the immunohistochemical detection comprises fluorescence,
30   radioactive, enzymatic and chemiluminescence methods.

15. A process for the production of the antibody according to any one of claims 1 to 5, characterised in that an animal is immunised with human Mcm3, and
35   monoclonal antibodies are obtained after the fusion of

spleen cells of the animal with myeloma cells which
comprises the steps :
(i)   initial screening of the hybridoma by means of an
immunobiochemical method
5   (ii)   screening of the hybridoma that where positive
in step (i) by means of an immunohistochemical method.

16. A process for the production of purified human Mcm3,
characterised in that the monoclonal antibody according
10   to any one of claims 1 to 5 is used.

17. A process for the production of purified human Mcm3,
characterised in that the process comprises an affinity
chromatography step with a monoclonal antibody according
15   to any one of claims 1 to 5.

18. A process for the production of purified human Mcm3,
characterised in that the process comprises an
immunoprecipitation step with a monoclonal antibody
20   according to any one of claims 1 to 5.

19. A diagnostic composition comprising a monoclonal
antibody according to any one of claims 1 to 5.

25   20. Use of a monoclonal antibody according to any one of
claims 1 to 5 for the production of a preparation for the
therapy of tumours, allergies, auto-immunopathies, scar
formation, inflammation and rheumatic diseases as well as
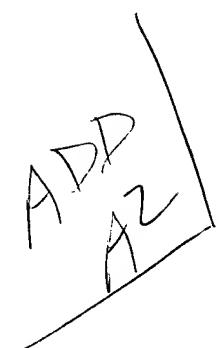the suppression of defense reactions of transplantations.
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21. Pharmaceutical composition comprising monoclonal
antibodies according to any one of claims 1 to 5 together
with pharmaceutical acceptable adjuvants.

35   22. Diagnostic kit comprising the monoclonal antibody
according to any of claims 1 to 5.

23. Diagnostic kit for the combined detection of the expression of Mcm3, Ki-67 and p27 for tumour diagnosis.

5   24. A method of preventing or treating a disease caused by or contributed by the activity or level of Mcm3 expression, comprising adminstering to the subject an effective amount of a pharmaceutical composition comprising an antibody according to any of claims 1 to 5,

10   together with a pharmaceutically acceptable carrier.